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Immigrants Working with Co-ethnics: Who Are They and How Do They Fare Economically?

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Abstract

Participation in ethnic economies has been regarded as an alternative avenue of economic adaptation for immigrants and minorities in major immigrant-receiving countries. This study examines one important dimension of ethnic economies: co-ethnic concentration at the workplace. Using a large national representative sample from Statistics Canada's 2002 Ethnic Diversity Survey, this study addresses four questions: (1) What is the level of co-ethnic concentration at the workplace for Canada's minority groups? (2) How do workers who share the same ethnicity with most of their co-workers differ from other workers in sociodemographic characteristics? (3) Is a higher level of co-ethnic concentration at the workplace associated with lower earnings? (4) Is a higher level of co-ethnic concentration at the workplace associated with higher levels of life satisfaction?

The results show that only a small proportion of immigrants and the Canadian born (persons born to immigrant parents) work in ethnically homogeneous settings. In Canada's eight largest metropolitan areas, about 10% of non-British/French immigrants share the same ethnic origin with the majority of their co-workers. The level is as high as 20% among Chinese immigrants and 18% among Portuguese immigrants. Among Canadian-born minority groups, the level of co-ethnic workplace concentration is about half the level for immigrants. Immigrant workers in ethnically concentrated settings have much lower educational levels and a lower proficiency in English/French. Immigrant men who work mostly with co-ethnics earn, on average, about 33% less than workers with few or no co-ethnic co-workers. About two thirds of this gap is attributable to differences in demographic and job characteristics. Meanwhile, immigrant workers in ethnically homogenous settings are less likely to report low levels of life satisfaction than other immigrant workers. Among the Canadian born, co-ethnic concentration is not consistently associated with earnings and life satisfaction.

Keywords: immigrants, visible minorities, ethnic economies, earnings, life satisfaction

Executive summary

Participation in ethnic economies has been regarded as an alternative avenue of economic adaptation for immigrants, particularly for those who lack proficiency in the host-country language and for those with low levels of education. Much of the literature on ethnic economies is based on U.S. studies on a few minority groups in several large immigrant-gateway metropolises. Little is known about the development and consequences of ethnic economies in Canada. This study examines one dimension of ethnic economies in Canada: co-ethnic concentration at the workplace, based on a large national representative sample from Statistics Canada's 2002 Ethnic Diversity Survey.

This study addresses the following questions: (1) What is the level of co-ethnic concentration at the workplace for minority groups in Canada? (2) How do workers who mostly work with co-ethnics differ from other workers in sociodemographic attributes? In particular, are they more likely to have lower levels of host-country language proficiency and education? (3) Is a higher level of co-ethnic concentration at the workplace associated with lower earnings? If so, to what extent do demographic and job characteristics account for the association? (4) Is a higher level of co-ethnic concentration at the workplace associated with higher levels of life satisfaction?

The results show that the majority of immigrants and the Canadian born (persons born to immigrant parents) do not work in ethnically homogeneous settings. In Canada's eight largest metropolitan areas, about 10% of the immigrants with non-British or non-French origins work in ethnically homogeneous settings. The level is much higher among the Chinese (20%) and the Portuguese (18%), and is very low among most European immigrant groups. About 5% of Canadian-born minority-group members work in ethnically homogeneous settings. The level of ethnic concentration at the workplace narrows substantially from immigrants to the Canadian born among the Chinese, Filipinos and South Asians. By comparison, among Italians the immigrants and the Canadian born have similar levels of ethnic concentration at the workplace.

Immigrant workers in ethnically homogeneous settings have a much lower proficiency in English/French than other immigrants who do not work or work with fewer or no co-ethnics. About 31% of immigrant workers who share the same ethnic ancestry with most of their co-workers have English/French as their mother tongue or grew up in an English/French-speaking family environment. This is much lower than the level of 62% among those who had few or no co-ethnic co-workers.

Immigrant workers in ethnically homogeneous settings also have much lower levels of educational attainment than other immigrant workers. About 49% of immigrant workers who share the same ethnic ancestry with most of their co-workers have education beyond high school, comparing with 72% among those with few or no co-ethnic co-workers.

Immigrant men working in ethnically homogeneous settings earn, on average, substantially less (33%) than immigrant workers with few or no co-ethnic co-workers. This earnings gap is primarily attributable to differences in human capital factors and also to the fact that ethnically homogeneous settings are over-represented in low-paying occupations and industries. The gap reduces to 18% when years of residence in Canada, education and proficiency in English/French are controlled for, and it narrows further to 11% when differences in occupational/industrial

distributions, self-employment status and working time are accounted for. Among immigrant women and the Canadian born, working in ethnically homogeneous settings is not associated with a significant earnings gap.

Immigrant workers in ethnically homogenous settings are less likely to report low levels of life satisfaction than do other immigrant workers. Among the Canadian born, there is no consistent association between the level of self-perceived life satisfaction and workplace concentration.

1 Introduction

How will immigrants and their children be incorporated into the host society while they increasingly work and live in a socially diverse and heterogeneous environment? This is a concern shared by most Western developed nations, which have relied on international immigration to alleviate the pressures of fertility decline and labour shortage (Cheong, Edwards, Goulbourne and Solomos 2007; Gregg 2006).

It is commonly observed in immigrant-receiving countries is that recent immigrants predominantly settle in major urban areas. Concurrently, the domestic-born population continues to move away from these areas (Frey 1995, Hou and Bourne 2006). Immigrants, in turn, find themselves increasingly in contact with their own-group members, as well as members of other minority groups, in daily life (Hou 2006). It is within these heterogeneous metropolitan areas that immigrants may come to rely on ethnic resources and networks for employment opportunities as a means of overcoming barriers in the labour market. Indeed, participation in ethnic economies and self-employment have been identified as alternative paths of economic survival, or even advancement, for immigrants and minorities, particularly for those who lack proficiency in the host-country language and for those with low levels of education. (Fong and Lee 2007; Logan, Alba and Stults 2003; Portes and Jensen 1989; Zhou 2004a). Meanwhile, some scholars have cautioned against overstating the benefits of ethnic economies (Logan, Alba and Stults 2003; Sanders and Nee 1987; Sanders and Nee 1992). Others warn of the possibility of minorities being trapped in ethnic enclaves at the expense of integration within the mainstream economy and society (Massey 1995).

Much of the literature on ethnic economies is based on U.S. studies on a few minority groups in several large immigrant-gateway metropolises. Little is known about the development and consequence of ethnic economies in other major immigrant-receiving countries. More importantly, previous studies on ethnic economies have been plagued by 'conceptual anarchy' and arbitrariness in their empirical operationalization (Logan, Alba and McNulty 1994; Nee, Sanders and Sernau 1994). To gain further understanding of the implications of ethnic economies, attention should be focused on specific aspects and forms of ethnic economies that can be directly measured (Logan, Alba and Stults 2003; Waldinger 1993; Waters and Eschbach 1995). Accordingly, this study examines one dimension of ethnic economies: co-ethnic concentration at the workplace, based on a measure that is much less subject to the measurement error common to previous studies.

Using a large national representative sample from Statistics Canada's 2002 Ethnic Diversity Survey, this study addresses the following questions: (1) What is the level of co-ethnic concentration at the workplace for minority groups in Canada? (2) How do workers who mostly work with co-ethnics differ from other workers in sociodemographic attributes? In particular, are they more likely to have lower levels of host-country language proficiency and education? (3) Is a higher level of co-ethnic concentration at the workplace associated with lower earnings? If so, to what extent can demographic and job characteristics account for the association? (4) Is a higher level of co-ethnic concentration at the workplace associated with higher levels of life satisfaction?

2 Pathways of economic incorporation of immigrants and minorities

Massive migration has historically been associated with the emergence of ethnic enclaves and ethnic economies in North American cities. Ethnic enclaves, such as Toronto's Jewish neighbourhoods, 'little Italys' and 'Chinatowns' in the first half of the 20th century represented refuges where new immigrants could escape from the foreign environment. More importantly, within ethnic enclaves were located economic opportunities that some new immigrants had difficulties finding elsewhere (Murdie and Teixeira 2003). In this sense, the recent rise in the number of clustered neighbourhoods with a strong presence of visible minorities and ethnic businesses in Canada's large urban areas is not unique.

What is unique, however, is the changing structural forces that affect the socioeconomic integration of visible minority groups. Two historical conditions facilitated the socioeconomic assimilation of earlier European immigrant groups (Massey 1995, Waters and Jiménez 2005). One is a long hiatus over the period from the 1930s to the 1960s, when the large-scale European immigration subsided. This hiatus gave the receiving society a 'breathing space' to absorb and accommodate a large influx of immigrants through generational succession, social mobility and intermarriage (Massey 1995, 643). The other condition was the sustained economic expansion from the end of the Second World War until the 1970s that provided opportunities for new immigrant groups to rapidly improve their economic status.

The above two historical conditions no longer prevail for today's visible minority groups. Continuous immigration will replenish visible minority populations with a steady supply of new arrivals from abroad. The language, culture and ways of life that are typically associated with a minority group will likely be augmented by newcomers (Massey 1995). Moreover, successive waves of immigrants experience mounting barriers to full inclusion within the mainstream of economic activities. The labour market performance of new immigrants deteriorated through the 1980s and 1990s, despite the improved macroeconomic condition in the late 1990s and the increases in educational attainment of immigrants (Picot, Hou and Coulombe 2007). It took 10 to 15 years for new arrivals to narrow their initial earnings gaps with the domestic born for those who immigrated before the 1980s. However, through the 1980s and 1990s the size of the initial earnings gap widened considerably, raising questions about whether immigrants would ever 'catch up' to their domestic-born counterparts within their work life (Frenette and Morissette 2005). The deterioration in new immigrants' labour market outcomes is related to a wide range of factors, including changes in immigrants' source regions, host-country language proficiency, declining returns to foreign work experience, a broad deterioration in labour market outcomes for new labour market entrants, the growing competition from the highly educated Canadian born, and discrimination (Aydemir and Skuterud 2005, Green and Worswick 2004, Picot and Sweetman 2005, Reitz 2001). The continuing supply of new immigrants and fewer opportunities in the mainstream labour market may increase the salience of ethnic economies as an alternative avenue for the economic incorporation of newcomers and minorities in Canada.

These new circumstances raise the issue of whether today's visible minority immigrants will follow the assimilation path that the earlier waves of many European immigrants had undertaken for adaptation into the mainstream culture and society (Glazer and Moynihan 1963, Lee and Bean 2004, Massey 1995; but see the discussions about Italians and Jews in the United States and

Canada by Glazer and Moynihan [1963] and Reitz [1990]). The segmented assimilation theory posits three possible pathways of adaptation: growing acculturation and assimilation into White middle-class; the development of a subculture that resists mainstream norms and values, and becomes absorbed into the minority underclass; and, economic mobility but with deliberate preservation of the immigrant community's values and ethnic solidarity (Portes and Zhou 1993, Zhou 1997). What makes an immigrant group susceptible to a particular path depends on the interaction between contextual factors—such as ethnic stratification, economic opportunities and spatial segregation—and characteristics specific to the group—such as human and financial capital and community resources (Zhou 1997).

Specific to the economic incorporation of immigrants and minorities, several models have been posited as alternatives to being absorbed in all sectors of the mainstream economy. These include middleman minorities, segmented labour market, ethnic economy and enclave economy (Nee and Sanders 2001, Zhou 2004a). Middleman minorities are essentially minority entrepreneurs who operate their businesses in poor minority neighbourhoods avoided by the mainstream retail and service industries. Middleman-minority entrepreneurs, for example the Korean business owners in Black neighbourhoods in some large U.S. metropolitan areas, often have few social connections with, and often face resentment from, their clienteles (Zhou 2004a). Segmented labour market accounts argue that some immigrant or minority groups are blocked from economic mobility because they primarily work in industrial sectors typified by instability, low pay, limited benefits and poor working conditions.

The concept of ethnic economy originates from the literature on middleman minorities, while enclave economy derives from segmented labour market perspectives (Light, Sabagh, Bozorgmehr and Der-Martirosian 1994). Although with different conceptual origins, both ethnic economy and enclave economy emphasize the shared ethnicity among ethnic-minority members as the basis for upward economic mobility and community development (Sanders 2002, Zhou 2004b). In its initial designation, the ethnic economy is defined by co-ethnicity of personnel and refers to any businesses that are either owned, supervised or staffed by minority-group members, regardless of size, type or spatial boundaries. As a special case of the ethnic economy, the enclave economy requires a geographic concentration in an identifiably ethnic community, a clustering of diverse economic activities that are governed by bounded solidarity and enforceable trust, and co-ethnic social relations between owners and workers based on a commonly accepted norm of reciprocity (Zhou 2004a).

In empirical studies, however, the terms of enclave economy and ethnic economy have often been used interchangeably, with the former being frequently stretched to cover other aspects of ethnic economy and the latter being applied to specific issues (Light and Gold 2000; Logan, Alba and Stults 2003). As a metaphor to the conceptual ambiguity and uncertainty in empirical operationalization, these concepts have been described as "a stew, to which researchers have added so many ingredients and seasonings that it is hard to tell what is essential" (Logan, Alba and McNulty 1994, 693). As an example of the confusion in the literature, some researchers define the participation in ethnic economies based on residential concentration, either within or across metropolitan areas, while others use concentration in workplace or industrial/occupational sectors as the criteria (Borjas 2000; Edin, Fredriksson and Åslund 2003; Fong and Lee 2007; Sanders and Nee 1987; Wilson and Portes 1980).

To better understand the mechanisms through which ethnic economies have become established, how they differ from the mainstream economic activities and their implications, scholars have called for more focused studies on specific aspects and forms of ethnic economies (Waldinger 1993, Waters and Eschbach 1995). An important step toward this direction is the growing number of studies on self-employment or ethnic entrepreneurs (Baily and Waldinger 1991, Min and Bozorgmehr 2000, Portes and Zhou 1996, Raijman and Tienda 2000, Sanders and Nee 1996, Zhou 2004a). These studies, however, do not make the explicit distinction between ethnic entrepreneurs and entrepreneurship in general. They also do not frame the economic activities of immigrants in the context of broad changes in advanced urban economies (Rath and Kloosterman 2000).

More recent advancement in the literature involves the specification of several forms of ethnic economies (Light and Gold 2000; Logan, Alba and Stults 2003; Logan, Alba and McNulty 1994). For instance, Reitz describes three measures of ethnic economy: ethnic occupations; ethnic work groups, including co-workers, supervisors and subordinates; and, employment in ethnic business (Reitz 1990, Reitz and Sklar 1997). Logan, Alba and Stults (2003) identify the following three patterns of ethnic economy: employment niches; entrepreneurial niches; and, ethnic enclaves. They are based, respectively, on group members' clustering in certain economic sectors as either workers, owners, or as both owners and workers within specific metropolitan areas. Their results show that, while various minority groups in three large U.S. metropolitan areas concentrate to a substantial degree in certain industrial sectors, there is no consistent association between job outcomes and the degree of concentration in the sector where an individual works.

Logan, Alba and Stults (2003) acknowledge that the limitation of their study, as well as others that have been solely based on census data, involves the lack of direct measure of group representation at the individuals' immediate work settings (Fong and Lee 2007; Logan, Alba and McNulty 1994; Sanders and Nee 1987; Zhou and Logan 1989). The proxy measure based on geographic concentration across metropolitan areas or among neighbourhoods within a metropolitan area, or relative representation in industrial/occupational sectors will underestimate the effects of participation in ethnic economies on labour market outcomes. Such a proximate measure, on the one hand, overlooks ethnic businesses operating outside the concentrated geographic areas or economic sectors and, on the other hand, includes non-ethnic businesses within these areas and sectors.

To illustrate this point, let's take a look at the usual approach of defining employment niches as an example. An employment niche for an ethnic group is often identified as a sector in which the group's representation as workers is 50% more than in the rest of the workforce[1] (Fong and Lee 2007; Logan, Alba and Stults 2003; Logan, Alba and McNulty 1994; Wilson 2003). In the case of the Chinese in the New York metropolitan area where they account for less than 3% of the total workforce, an industrial sector would be identified as a Chinese employment niche if over 4.5% of its workers are Chinese. In this particular sector, the majority of the workers are non-Chinese; hence the chance of a Chinese working alongside other Chinese is rather small. Furthermore, the relative representation of a group may vary with the level of detail in economic

1. This is formally expressed as an odds ratio of 1.5. The odds ratio is calculated as $(E_{ij}/O_{ij})/(E_{j-1}/O_{j-1})$, where E_{ij} is the number of workers of ethnic group i in industrial/occupational sector j, O_{ij} is the number of workers of all other ethnic groups in industrial/occupational sector j, and E_{j-1} and O_{j-1} are similarly defined as workers in all other industrial sectors.

sectors and the size of geographic areas. The difference from these sources is probably the main reason for the large discrepancy in the reported extensiveness of ethnic niches in the United States. For example, Light and Gold (2000) reported that the share of the average ethnic group's concentration in ethnic niches is about 41%. By comparison, Wilson (2003) reported a value of 14%.

In addition to providing a more precise measure, focusing on co-ethnic concentration at the immediate work settings presents unique analytical angles that are complementary to studies based on concentration in large-scale urban areas or industrial/occupational sectors. The latter are more suitable to issues at the group or community level, such as the relationship between ethnic business development and community social capital and social network, group differences in participating ethnic businesses, the degree of dependence in social and economic functions among ethnic businesses and whether the existence of ethnic economies benefits an ethnic group as a whole (Logan, Alba and Stults 2003; Zhou 2004a).

By comparison, examining co-ethnic concentration at the immediate work environment is more suitable to issues related to causes and consequences of participating in ethnic economies at the individual level. For instance, individual workers could benefit from informal on-the-job training and business apprenticeship within ethnically based companies, more efficient evaluation by ethnic employers of foreign education credentials, higher productivity in these companies by clustering same-language workers (Galster, Metzger and Waite 1999). On the other hand, ethnically homogenous work settings may be associated with poor working conditions and low wages (Reitz 1990, Sanders and Nee 1987). The closed within-group networks in ethnic businesses may also hamper workers' employment in the wider economy, reducing the incentives to acquire the host-country's language, work experience and educational qualifications (Fong and Ooka 2002). All these possible effects operate primarily within the immediate work environment.

Some ethnographic studies and small surveys targeted to specific groups in specific metropolitan areas do have some direct measures of ethnic composition at immediate work settings (Fong and Ooka 2002; Nee, Sanders and Sernau 1994; O'Bryan, Reitz and Kuplowska 1976; Reitz 1980; Reitz, Calzavara and Dasko 1981; Wilson and Portes 1980). These studies have indeed been instrumental in the theoretical advancement of the study of ethnic economies, but they are also limited in terms of their coverage of labour market activities, ethnic groups or geographic areas. It remains unclear, then, as to what extent the scope and consequences of workplace concentration can be generalized beyond their particular context.

Taking advantage of a large national representative sample of various visible minority/ethnic groups and a direct measure of workplace concentration, this study aims to fill the gaps in the literature in several ways. First, we estimate the level of workplace concentration for various minority groups in Canada's large metropolitan areas. We further compare the levels among groups, by immigrant status, and with the level of residence concentration measured at narrowly defined neighbourhoods (street blocks).

Second, this study examines how workers who mostly work with co-ethnics differ from other workers and from people who are not in the workforce. This will at least partially show whether workplace concentration is a survival strategy for those with less-marketable human capital or a chosen path of economic activities for those who prefer a co-ethnic environment. The key

explanatory variables here are education, proficiency in the host-country language(s), and ethnic attachment in terms of ethnic identity and friend networks.

Third, this study examines variations in earnings associated with the level of co-ethnic concentration at the workplace. Previous studies on the effect of participating in ethnic economies on individuals' earnings have been primarily based on concentration in large-scale urban areas or economic sectors. From these studies, it is often difficult to infer whether any observed earnings penalties or benefits are intrinsic to ethnic firms. This study is able to control for important factors that are not inherent to ethnic business, including individuals' demographic and human capital variables, working time, industry and occupation.

Finally, this study examines the degree of life satisfaction associated with working in an ethnically homogenous environment. Many scholars have stressed the implications of ethnic economies that go beyond individuals' employment and income, but few studies have examined the non-economic outcomes (Fong 2001, Fong and Ooka 2002). Since the workplace has become a social centre of people's lives, co-ethnic concentration facilitates social interaction among members who share the same language and culture, thus contributing to an overall improvement on their psychological well-being. On the other hand, if an ethnically homogenous workplace is associated with poor work conditions and minimal benefits, those who work in such an environment may suffer psychologically (Fong 2001).

3 Data and measures

This study draws data from Statistics Canada's 2002 Ethnic Diversity Survey (EDS). The EDS collects a national representative sample of over 42,000 non-Aboriginal Canadian residents aged 15 years or over. The survey was designed to provide information to better understand how Canadians of different ethnic backgrounds interpret and report their ethnicity and how people's backgrounds affect their participation in the social, economic and cultural life in Canada. For these purposes, the EDS covers a wide range of topics that include ethnic ancestry, ethnic identity, place of birth, visible minority status, generation status, knowledge of languages, family background, social networks, life satisfaction and socioeconomic activities. The survey over-samples visible/ethnic minority groups and thus obtains relatively large samples to allow comparisons between these minority groups and more-established, large ethnic communities in various characteristics (Statistics Canada 2003).

This study focuses on a sample of 7,400 working-age (25 to 64 years) immigrants and the second generation of immigrants (persons born to immigrant parents, thereafter referred to as the Canadian born) who resided in the eight largest metropolitan areas—Toronto, Montréal, Vancouver, Ottawa–Hull, Calgary, Edmonton, Winnipeg and Hamilton. The majority of Canada's immigrants—about 77% in 2001—and visible minorities—about 88% in 2001—are located in these large urban areas. This sample does not include those who suffered long-term illness, were on maternity/parental leave or were retired. It also excludes the third-plus generation population—those with both parents born in Canada—since this consists primarily of British, French and other western European ethnic origins (over 95%). Moreover, due to longer periods of settlement in Canada than the first or second generations and with greater rates of inter-group marriage, the third-plus generation is also more ambivalent about its ethnic identity, which is directly linked to our measure of ethnic concentration at the workplace (as will be discussed

below). The study sample does not include people with British or French origins—the two charter groups in Canada—since the focus of this study is on minority groups. This study also does not include Aboriginals, since persons declaring an Aboriginal origin or identity were excluded in EDS's sample selection (Statistics Canada 2003).

The above-selected sample is used to compare the characteristics among those who did not work, those whose co-workers were mostly of the same ethnic origin, and workers with few or no co-ethnic co-workers. Within this sample, about 5,600 worked in the year prior to the survey date, either as paid employees or self-employed, had co-workers at the workplace, earned positive income and had employment income as their main income source. This sub-sample (worker sample) is used to examine the association between ethnic concentration at the workplace on the one hand, and earnings and self-perceived life satisfaction on the other.

The focal variable of interest—co-ethnic concentration at the workplace—is based on the survey question "As far as you know, how many people that you worked with had the same ethnic ancestries as you?" This question was only asked among respondents who had reported at least one ethnic ancestry, other than "Canadian," and had rated it either important or very important to them. In the worker sample, about 1% did not report at least one ethnic ancestry other than "Canadian" and a further 32% did not rate their ethnic ancestry as important to them. Thus, only 67% of our sample directly answered the survey question. However, we do not simply discard those people who did not directly answer the survey question on co-ethnic concentration at the workplace: they provide a very meaningful reference, based on the comparison that can be made between those whose ethnic ancestry was not important to them and those who rated their ethnicity as important but with different levels of workplace concentration.[2]

Co-ethnic concentration at the workplace is originally coded as a categorical variable with six groups: 1) all co-workers had the same ethnic origins as the respondent, 2) most of them did, 3) about half of them did, 4) a few of them did, 5) none of them did, and 6) ethnic ancestry was not important to the respondent. Since relatively few people were in the first category and there were no large differences between the first and second categories in the outcomes, the first two are combined in the analysis. The 4th and 5th categories are also combined, as little difference exists between them in the outcomes. In the analysis, workers in an ethnically homogenous workplace refer to individuals who share the same ethnic origin with all or most of their co-workers. This workplace concentration variable reflects the ethnic composition in the individuals' immediate work environment.

Multinomial logistic regression models are used to examine characteristics that distinguish those who mostly work with co-ethnics from other workers and from those who are not employed. The models are constructed separately for immigrants and for the Canadian born. The models include two sets of explanatory variables. The first set contains basic sociodemographic variables, including sex (women=1, men=0), age (in single years), education, family structure, place of residence, self-reported official language ability, visible minority/ethnic groups and the years since immigration for immigrants. Education is coded as three dummy variables: university degree, some postsecondary and high school graduation, with the common reference being less

2. It is possible that those who are highly motivated and with higher-than-average abilities are also the ones who do not rate their ethnic ancestry as important or who have a lower propensity to work in an ethnically homogeneous environment. In Section 5, we discuss the implications of such unobserved heterogeneity.

than high school. Family structure is represented by two variables: current marital status (married =1, else =0), and the number of children aged 14 years or under in the household, ranging from 0 to 4. The place of residence is coded as seven dummies for Toronto, Montréal, Ottawa–Hull, Calgary, Edmonton, Winnipeg and Hamilton, with Vancouver as the common reference.

The language variable captures both the proficiency of the official language and the ability in a minority language. It has five categories for immigrants: 1) individuals who have English/French as their mother tongue and still speak it; 2) individuals who have a minority language as mother tongue and still speak it, but they spoke mostly English/French with parents and siblings by age 15; 3) individuals who have a minority language as mother tongue and still speak it, and they did not speak English/French with parents and siblings by age 15, but speak English/French with friends; 4) individuals who have a minority language as mother tongue and still speak it, and they did not speak English/French with parents and siblings by age 15, and they do not speak English/French with friends, but they can speak English/French; and, 5) individuals who do not speak English/French. For the Canadian born, the last category does not apply.

Since different visible minority/ethnic groups may vary in the extent of co-ethnic concentration at the workplace, it is important to include detailed visible minority/ethnic categories in the model. The following 13 visible minority/ethnic groups are identified, each with a minimum sample size of about 50 persons among immigrants and the Canadian born. They include five visible minority groups: Chinese, South Asians, Blacks, Filipinos, and other visible minorities (Arab/West Asians, Latin Americans, Koreans, Japanese, Southeast Asians, visible minorities not included elsewhere and multiple visible minorities).[3] There are also four ethnic groups with European background: Germans, Italians, Portuguese, and other European minority groups.[4] See Table 1 for the sample size for each identified group.[5]

While the demographic variables show whether co-ethnic concentration at the workplace is more prevalent among those with less marketable human capital, the second set of variables is used to capture the role of individuals' preference for a co-ethnic work setting. This set of two variables reflects individuals' ethnic belongings and networks. One variable is whether the respondents reported that at least half of their friends were from the same ethnic group by age 15; the second variable is whether the respondents reported a strong sense of belonging to their ethnic or cultural group.

To examine the association of co-ethnic concentration at the workplace with earnings and self-perceived life satisfaction, regression models are constructed for employed men and women separately, and for immigrants and the Canadian born separately. One dependent variable is log

3. In this study, visible minorities are defined by Canada's *Employment Equity Act* as "persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour." The regulations that accompany the Act identify the following visible minority groups: Chinese, South Asians, Blacks, Arab/West Asians, Filipinos, Southeast Asians, Latin Americans, Japanese, Koreans, and others (Renaud and Costa 1999).

4. Two other European groups—Dutch and Polish—also meet the specified minimum sample size criteria. But there are hardly any workers who share the same ethnic ancestry with most of their co-workers in these two groups. They are combined into 'other European minority groups.'

5. In the 2001 Census, the population share of the selected seven single groups in the eight largest metropolitan areas is 6.6% for Chinese, 5.6% for South Asians, 3.8% for Blacks, 1.9% for Filipinos, 1.7% for Germans, 4.1% for Italians and 1.4% for Portuguese.

annual income. A direct measure of employment income (wages and self-employment income) would have been preferable, but the EDS did not collect such information. To mitigate the potential bias, the analysis is restricted to those whose main income source is from employment. The other dependent variable is self-perceived life satisfaction,[6] originally an ordinal variable with value ranging from 1 (not satisfied with life at all) to 5 (very satisfied). Since very few people reported 'not satisfied at all' (1.2%) or 'somewhat not satisfied' (1.5%), a dummy variable is created to contrast 'low levels of life satisfaction' (1, 2 and 3) and 'high levels of life satisfaction' (4 and 5). A dichotomous logit regression is used for this dependent variable.[7] There are no other measures of psychological well-beings in the EDS.

For both outcomes, regression analyses include the aforementioned sociodemographic variables, but the age variable is replaced by potential years of work experience. Potential years of work experience are defined as 'age minus years of education minus 6.' The squared term of this variable is also included in the models. Moreover, the models include an additional set of explanatory variables related to individuals' job attributes, including self-employment status (self-employed=1, paid workers=0), weeks worked in the previous 12 months, hours usually worked in a week in the previous 12 months, occupation (six categories: management, natural and applied sciences, other professionals, sales and service, trades and transportation, and others—mostly related to occupations unique to primary industry, processing, manufacturing and utilities), and industry (five categories—goods-producing industries, trade and transportation, business services, public services and personal services).

With the above control variables, three Ordinary Least Squares regression models are built sequentially for earnings. Model 1 includes workplace concentration and basic demographic variables—visible minority/ethnic groups, potential years of work experience and family structure. This model provides the average earnings gaps across levels of co-ethnic concentration when differences in basic demographic characteristics are accounted for. Model 2 adds in education, language proficiency, immigrant status, and ethnic networks and belonging. This model will show how much the estimated average gaps in Model 1 can be accounted for by differences in characteristics that are associated with working in ethnically homogenous settings. Model 3 adds in work attributes.

For the second outcome variable—life satisfaction—two logistic models are built sequentially. Model 1 includes individual sociodemographic characteristics, job attributes and metropolitan areas of residence. Model 2 adds in log annual earnings to Model 1.

For both outcomes, models are constructed separately for immigrants and the Canadian born and also for men and women. To examine whether the associations of workplace concentration with outcomes differ across visible minority/ethnic groups, separate models are constructed for each large group—with at least 300 observations when combining immigrants and Canadian born as well as men and women. Because of small sample size at the group level, immigrants and

6. The survey question is "All things considered, how satisfied are you with your life as a whole these days?"

7. Two alternative modelling approaches have been tested. One approach uses ordered logit models for the original 5-category ordinal variable. However, the score test fails to support the proportional odds assumption. The other approach is to fit a dichotomous logit model by contrasting 'very satisfied' (5) with all other categories (1 to 4). The results are similar to those reported in the paper.

Canadian born, as well as men and women, are combined in these models with controls for sex and immigrant status.

The EDS is a probabilistic survey and a survey weight is assigned to each respondent to represent the target population at the national level. This weight is used in all descriptive results. In regression models, the survey weight is standardized by dividing it with the average weight in the study sample. This standardized weight has the advantage of maintaining the same distributions as those of non-standardized weights, but avoiding an overestimation of the critical level in testing the significance of regression coefficients (Statistics Canada 2003).[8]

4 Results

4.1 The level of co-ethnic concentration at the workplace

In Canada's eight largest metropolitan areas, about 10% of non-British, non-French immigrants share a common ethnic origin with the majority of their co-workers (Table 1). Another 6% of immigrants work in settings where about half of their co-workers are from the same ethnic ancestry. The level of co-ethnic concentration at the workplace is much lower among the Canadian born.[9] Only 4.5% of Canadian-born workers share a common ethnic origin with the majority of their co-workers.

Among immigrants, the level of co-ethnic concentration at the workplace varies greatly across ethnic groups. Chinese and Portuguese immigrants have the highest levels at 19.9% and 17.6%, respectively. Italian, Filipino and South Asian immigrants also have relatively high levels of co-ethnic concentration. Germans and other European immigrant groups rarely work in an ethnically homogenous environment. Among the Canadian born, the group difference is small, and the level of co-ethnic concentration is generally low. Only the Italians and Portuguese show relatively high levels of co-ethnic concentration.

8. This is an issue only with certain procedures in some statistical software (e.g., Proc logistic in SAS).

9. In this paper, the Canadian born include only those who were born in Canada with at least one immigrant parent.

Table 1
Percentage distribution of co-ethnic concentration at the workplace among workers aged 25 to 64, by immigration status, in Canada's eight largest metropolitan areas

	Most co-workers have the same ethnic ancestry	About half co-workers have the same ethnic ancestry	Few or none of co-workers have the same ethnic ancestry	Ethnic ancestry not important	Sample size
	percent				
Immigrants					
All groups	10.1	6.1	54.4	29.4	3,309
Chinese	19.9	6.3	44.8	29.1	556
South Asian	9.3	7.9	56.2	26.6	529
Black	4.9	6.7	71.4	17.0	283
Filipino	12.8	5.7	54.2	27.3	224
Other visible minorities	10.1	5.4	55.6	29.0	477
German	1.1	0.6	47.0	51.4	78
Italian	10.0	10.0	61.2	18.8	200
Portuguese	17.6	11.7	40.4	30.3	166
Other European minority groups	3.7	3.0	53.8	39.5	796
Canadian born of immigrant parents					
All groups	4.5	5.8	48.6	41.2	2,298
Chinese	4.0	5.8	53.9	36.3	257
South Asian	1.4	3.9	54.3	40.4	120
Black	4.9	5.2	63.0	26.9	162
Filipino	4.8	2.8	59.9	32.5	55
Other visible minorities	3.5	2.3	54.2	40.0	166
German	1.2	4.5	35.8	58.5	209
Italian	8.3	13.6	59.6	18.5	373
Portuguese	7.8	9.5	64.9	17.8	60
Other European minority groups	3.1	2.0	40.3	54.6	896

Note: To save space, statistical significance of differences for pair-wise comparisons is not presented. As a rule of thumb, for two independent samples each with 200 observations, a 6-percentage-point difference would be statistically significant when both percentages are either close to 100 or to zero; a 10-percentage-point difference would be statistically significant when both percentages are close to 50.
Source: Statistics Canada, Ethnic Diversity Survey.

As a point of reference, Table 2 presents the level of residential concentration measured at the street-block level from the 2001 Census data. Note that the population size at the street-block level—with a median size around 100 or about 30 households—is probably larger than the size of a typical work site—this information is not available in the Ethnic Diversity Survey (EDS). The residential-concentration level could be higher if it was based on a smaller geographic unit. Keeping this caveat in mind, the comparison of Table 1 with Table 2 reveals two interesting patterns. First, among immigrants, Chinese, South Asians and Italians have high levels of co-ethnic concentration, both at the workplace and in residential neighbourhoods. Filipinos and Portuguese have relatively high levels of workplace concentration, but low levels of residential concentration. Germans and Blacks have relatively low levels of concentration, both at the workplace and in residential neighbourhoods. Second, for each ethnic group, immigrants and the Canadian born have very similar levels of residential concentration. By comparison, for visible minority groups, the relatively high level of workplace concentration among immigrants narrows substantially among their Canadian-born counterparts.

Table 2
Residential concentration by immigration status in Canada's eight largest metropolitan areas for selected ethnic groups, 2001

	Living in co-ethnic neighbourhoods[1]	
	Immigrants	Canadian born
	percent	
Chinese	18.1	14.3
South Asian	9.9	10.9
Black	3.0	3.3
Filipino	2.2	2.6
German	1.2	1.6
Italian	12.7	12.5
Portuguese	3.1	3.6

1. Neighbourhoods here refer to urban street blocks that have a median population size around 100. A co-ethnic neighbourhood is defined as a street block where at least two thirds of the residents have the same ethnic origin.
Source: Statistics Canada, 2001 Census 20% microdata file.

4.2 The characteristics of workers in ethnically concentrated workplaces

Low educational levels characterize both immigrant and Canadian-born workers who work mostly with their co-ethnics. As in the top panel of Table 3, about 49% of immigrant workers who share the same ethnic ancestry with most of their co-workers have education beyond high school, compared with 72% among those with few or no co-ethnic co-workers and 68% among those reporting their ethnic ancestry is not important to them. Even individuals who are not working have higher educational levels than those who mostly work with their co-ethnics. In general, these patterns held for both visible-minority and European-origin immigrants. Among the Canadian born, the disadvantage in educational levels for workers who mostly work with their co-ethnics is concentrated among visible minorities.

Table 3
Education and language ability by work status and the degree of co-ethnic concentration at the workplace among people aged 25 to 64

	Not working	Most co-workers have the same ethnic ancestry	About half co-workers have the same ethnic ancestry	Few or no co-workers have the same ethnic ancestry	Ethnic ancestry not important
	percent				
With at least some postsecondary education					
Immigrants	57.3	49.1	50.0	71.7	67.5
Visible minorities	56.0	51.9	57.1	73.7	66.4
European origins	60.7	39.2	33.8	67.6	69.0
Canadian born of immigrant parents	68.3	61.6	70.8	80.2	73.6
Visible minorities	74.3	33.6	78.8	87.0	85.3
European origins	66.4	71.1	69.4	78.1	71.2
With English/French as mother tongue or grown up in English/French environment					
Immigrants	44.5	30.7	47.8	62.3	67.6
Visible minorities	40.6	26.6	48.0	59.2	58.2
European origins	55.0	45.1	47.2	68.8	81.5
Canadian born of immigrant parents	96.6	83.6	97.0	97.0	97.6
Visible minorities	89.2	34.8	90.5	93.1	91.0
European origins	98.9	100.0	98.1	98.2	98.9

Source: Statistics Canada, Ethnic Diversity Survey.

Low proficiency in English/French is another characteristic among immigrant workers who mostly work with their co-ethnics. As shown in the bottom half of Table 3, about 31% of immigrant workers who share the same ethnic ancestry with most of their co-workers have English/French as their mother tongue or grew up in an English/French-speaking family environment. This is much lower than the level of 62% among those who had few or no co-ethnic co-workers and 68% among those reporting their ethnic ancestry is not important to them. This is also lower than the level of 45% among those who are not working. The disadvantage in English/French proficiency is particularly severe among visible-minority immigrant workers in ethnically homogeneous settings.

Among Canadian-born visible minorities, workers who mostly work with their co-ethnics show a clear lack of proficiency in English/French. But for Canadian-born European groups, language proficiency does not vary with the level of co-ethnic concentration at the workplace.

Education and proficiency in host-society language may not be the only factors associated with the degree of workplace concentration. To discern the effects of other sociodemographic variables, a multinomial regression model is constructed for immigrants (left panel in Table 4) and the Canadian born (right panel Table 4) separately. The dependent variable for each group is the five categories representing work status and degree of workplace concentration, with the category that most co-workers are co-ethnics as the common reference. Table 4 shows the odds ratios estimated from the multinomial regression models. For example, immigrant women's odds of working with few or no co-ethnic workers compared with working with most of their co-workers being co-ethnics is 1.39 times larger than the corresponding odds for men (the first number in Column 3).

As shown in the first column of the left panel in Table 4, compared with those who are not working, immigrant workers who share the same ethnic ancestry with most of their co-workers tend to have lower proficiencies in English/French, a stronger sense of ethnic belonging and more co-ethnic friends. They also tend to be men, are younger, are less likely to be recent immigrants, are more likely to be married, and are less likely to have young children at home.

Among workers, lower proficiencies in English/French, stronger ethnic belonging and more ethnic friends are also significant factors in distinguishing immigrant workers who share the same ethnic ancestry with most of their co-workers from those with fewer co-ethnic workers or those reporting that their ethnic ancestry is not important (Columns 2 to 4 in the left panel of Table 4). Lower levels of education and being recent immigrants (in Canada for five years or less) are two other important factors for working in ethnically homogenous settings.

Among the Canadian born, using minority languages and having ethnic friends are the two variables with large effects distinguishing workers who mostly work with co-ethnics from those who are not working, as well as from those with fewer co-ethnic co-workers. Unlike immigrants, whose use of a minority language in social functions could at least partially result from lack of proficiency in English/French, not using the host-country language(s) among the Canadian born probably reflects the individuals' preference for using their minority languages. The effect of education is either insignificant or in the opposite direction to that among immigrants. These results suggest that individual preference may play a major role in affecting co-ethnic concentration at the workplace among the Canadian born. By comparison, both the disadvantage in human capital and individual preference are important factors for working in an ethnically homogeneous workplace.

Table 4
Odds ratios from multinomial logistic regressions on work status and the degree of co-ethnic concentration at the workplace

	Immigrants				Canadian born of immigrant parents			
	Did not work	Half co-workers are co-ethnics	Few or no co-workers are co-ethnics	Ethnic ancestry not important	Did not work	Half co-workers are co-ethnics	Few or no co-workers are co-ethnics	Ethnic ancestry not important
Women	4.03***	0.96	1.39***	1.02	2.89***	0.80	1.04	0.71
Age	1.01**	1.00	1.00	0.98***	1.04***	1.06***	1.03**	1.02
High school graduation	0.86	1.63***	1.80***	1.66***	0.20***	0.44*	0.74	0.39*
Some postsecondary	0.90	1.46***	2.18***	1.10	0.41*	0.98	1.80	0.87
University	0.93	2.12***	3.38***	1.30	0.30**	0.77	1.46	0.35*
Not speaking E/F[1]	0.24***	0.06***	0.05***	0.17***	...	...	...	...
Mother tongue not E/F, can speak E/F but not use E/F with friends	0.50***	0.32***	0.51***	0.65**	0.23***	0.29***	0.38**	0.24**
Mother tongue not E/F, uses E/F with friends	0.69*	0.68**	1.02	0.70	4.10**	2.09	4.58***	2.04
Mother tongue not E/F, spoke E/F in family by age 15	0.66*	0.51***	0.82	0.66	0.85	0.90	1.55**	0.73
In Canada <=5 years	2.43***	0.74**	0.54***	0.59***	...	...	...	...
In Canada 6 to 10 years	1.69***	1.15	0.86	0.82	...	...	...	...
Married	0.71***	1.03	0.89	0.69**	0.96	1.17	1.13	1.08
Number of young children	1.32***	1.07	0.99	1.10	1.08	0.77**	0.76**	1.03
Strong ethnic belonging	0.62***	0.20***	0.86*	0.97	0.71*	0.28***	1.12	1.23
With ethnic friends	0.36***	0.18***	0.58***	0.66*	0.21***	0.14***	0.25***	0.99
Chinese	0.50***	0.35***	0.30***	0.51***	0.30***	0.27***	0.40**	0.99
South Asian	0.58***	0.46***	0.59***	1.05	3.66	1.81	2.01	3.76
Black	0.56**	0.39***	1.02	1.11	1.56	0.79	1.67	1.26
Filipino	0.20***	0.47***	0.39***	0.50**	1.39	1.16	1.81	1.13
Other visible minorities	0.59***	0.37***	0.50***	0.62*	2.19	1.33	1.73	1.45
German	2.72	2.80	2.08	0.52	1.32	1.32	1.51	4.45**
Italian	0.43***	0.27***	0.53***	1.34	0.57**	0.34***	0.81	2.16**
Portuguese	0.25***	0.41***	0.32 ***	0.96	0.82	0.25***	0.71	1.54
Metropolitan area dummies	included	included	included	included	included	included	included	included

... not applicable
* significant at p<0.05
** significant at p<0.01
*** significant at p<0.001
1. English/French.
Source: Statistics Canada, Ethnic Diversity Survey.

In addition to deficits in human capital, immigrant workers in ethnically homogenous working settings are disproportionately represented in low-paying occupations and industries. As in Table A.1, among immigrants, workers in an ethnically homogenous environment are more likely to work in sales and services occupations (33%) and in occupations unique to primary industries,

processing, manufacturing and utilities (21%) than workers with few or no co-ethnic co-workers (20% and 11%, respectively). Compared with workers who have few or no co-ethnic co-workers, immigrant workers in ethnically homogenous settings are over-represented in personal services industries (29% compared with 10%), but less likely to work in business services industries (15% compared with 26%) and public service industries (9% compared with 21%). Immigrant workers in ethnically homogenous settings are more likely to be self-employed than are other workers.

Among the Canadian born, the differences in occupational and industrial distribution by the level of co-ethnic concentration at the workplace are not as large as among immigrants. Still, Canadian-born workers in an ethnically homogenous working environment are over-represented in occupations unique to primary industries, processing, manufacturing and utilities, and in personal services industries.

4.3 Co-ethnic workplace concentration and earnings

The question here is whether the observed disadvantages in human capital and job attributes can explain any earnings gaps associated with working in ethnically homogenous settings. When differences in individual characteristics and job attributes are accounted for, the remaining earnings gaps could be due to lower wage rates specifically associated with ethnically homogenous work settings, other job characteristics that are not measured in the study, such as firm size and union coverage, and/or the tendency among those who are highly motivated and with higher-than-average abilities—rather than those observed in the study—to stay away from an ethnically homogeneous workplace. It is difficult to separate the effects due to unmeasured job attributes and unobserved heterogeneity, but the omission of both factors would lead to an over-estimate of the earnings disadvantage associated with ethnically homogenous work settings (Edin, Fredriksson and Åslund 2003). If the remaining gap is small when observed individual characteristics and job attributes are controlled for, and if unobserved abilities of workers in ethnically homogenous settings are not higher than average, it is reasonable to conclude that working in these settings is not directly associated with large disadvantages in earnings.[10]

The results in Table 5—based on regression models presented in Table A.2—show that only immigrant male workers in an ethnically homogenous environment show, on average, a large gap in their earnings relative to those with few or no co-ethnic co-workers (as in Model 1's). This observed earnings gap primarily results from the difference in individual human capital and job attributes. Among immigrant men, when controlling for basic demographic variables, including ethnic groups, potential years of work experience, family structure and metropolitan area of residence, those workers in an ethnically homogeneous environment earn 33% less than do workers with few or no co-ethnic co-workers. The gap reduces to 18% when years of residence in Canada, education and proficiency in English/French are controlled for. The gap narrows further to 11% when differences in occupational/industrial distributions, self-employment status and working time are accounted for. Differences in individual human capital and job attributes account for about two thirds of the observed earnings gap. The remaining earnings gap is not statistically significant at p=0.05.

10. However, if workers in ethnically homogenous settings had lower-than-average unobserved abilities, they would be more likely to be selected into poorly-paid jobs. Thus, it is possible that accounting for differences in occupational and industrial distribution leads to 'over-control.' Therefore we present models with and without controlling for occupational and industrial distribution and working time.

Table 5
Estimated gaps[1] in log annual earnings relative to workers with few or no co-ethnic co-workers, by sex and immigrant status

	Men			Women		
	Model 1: basic demo-graphics	Model 2: Model 1+ language, education	Model 3: Model 2 + job attributes	Model 1: basic demo-graphics	Model 2: Model 1+ language, education	Model 3: Model 2 + job attributes
Immigrants						
Most co-workers have the same ethnic ancestry	-0.331 ***	-0.176 **	-0.111	-0.072	0.050	0.042
	(0.064)	(0.063)	(0.064)	(0.089)	(0.091)	(0.091)
About half co-workers have the same ethnic ancestry	-0.050	0.050	0.076	-0.120	-0.099	-0.121
	(0.078)	(0.076)	(0.076)	(0.109)	(0.108)	(0.105)
Ethnic ancestry not important	-0.033	0.002	0.003	0.057	0.030	0.020
	(0.042)	(0.043)	(0.043)	(0.060)	(0.064)	(0.062)
Canadian born of immigrant parents						
Most co-workers have the same ethnic ancestry	-0.077	-0.100	-0.109	-0.173	-0.156	-0.114
	(0.110)	(0.106)	(0.105)	(0.115)	(0.114)	(0.110)
About half co-workers have the same ethnic ancestry	0.010	0.114	0.071	0.066	0.089	0.025
	(0.088)	(0.086)	(0.086)	(0.119)	(0.117)	(0.111)
Ethnic ancestry not important	0.013	-0.009	-0.004	0.131 *	0.184 **	0.175 **
	(0.046)	(0.047)	(0.047)	(0.055)	(0.058)	(0.055)

* significant at p<0.05
** significant at p<0.01
*** significant at p<0.001
1. See Table A.2 for full model specification.
Notes: Numbers in parentheses are standard errors. The reference group is few or no co-workers have the same ethnic ancestry.
Source: Statistics Canada, Ethnic Diversity Survey.

Among Canadian-born women, the earnings gap stands at 17%, sizeable but not statistically significant, between workers in ethnically homogeneous settings and workers with few or no co-ethnic co-workers. This gap narrows to 11%, when controlling for differences in education, language proficiency and job attributes. By comparison, Canadian-born women who report that ethnic ancestry is not important earn significantly more than those who report that ethnic ancestry is important, but work with few or no co-ethnics. Among immigrant women and Canadian-born men, the earnings variation associated with workplace concentration is generally small or statistically insignificant.

The negative association between working with co-ethnics and earnings appears to be in absolute value greater among the Chinese and Italians. This is shown in Table 6, which is based on regression models constructed separately for each large ethnic group (with at least 300 observations when combining immigrants and Canadian born, as well as men and women). When observed individual characteristics and job attributes are controlled for, workers in an ethnically homogeneous environment still earn about 32% less than workers with few or no co-ethnic co-workers, among both Chinese and Italians. Note that the Chinese have the highest rate of working in ethnically homogeneous settings among immigrant groups, while the Italians have the highest rate among the Canadian born.

When analysis is performed separately for the immigrant and Canadian-born Chinese and Italians, the disadvantage associated with working in an ethnically homogeneous environment exists only among Chinese immigrants—mostly among Chinese immigrant women—but it persists for both immigrants and the Canadian born for Italians (tables not included, but available upon request). Note here the comparison is within group. The large earnings gap associated with

workers in ethnically homogenous settings within these two groups does not necessarily mean that these workers earn much less than workers from other groups that also work in ethnically homogenous settings. Indeed, further analysis shows that male Chinese immigrants who work in ethnically homogenous settings have a trivial earnings gap (2%) with their counterparts from all other groups. Female Chinese immigrants who work in an ethnically homogenous environment have a relatively large earnings gap (19%) with their counterparts from all other groups, while female Chinese immigrants who have few or no co-ethnic co-workers enjoy a relatively large earnings advantage (22%) over their counterparts from all other groups. This suggests that the large variation in earnings associated with workplace concentration results, at least partially, from the well-off Chinese immigrants who work in non-ethnic settings relative to their counterparts from other groups.

Similar patters exist for Italian immigrant men and women, and Canadian-born Italian men. Canadian-born Italian women who work in an ethnically homogenous environment have a large earnings gap (21%) with their counterparts from all other groups, while Canadian-born Italian women who have few or no co-ethnic co-workers have similar earnings as their counterparts from all other groups.

Table 6
Estimated gaps in log annual earnings, relative to workers with few or no ethnic co-workers, by ethnic group, combining immigrants and Canadian born of immigrant parents

	Model 1 Basic demographics		Model 2 Model 1+ language, education		Model 3 Model 2 + job attributes	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Chinese						
Most co-workers have the same ethnic ancestry	-0.545***	0.087	-0.388***	0.094	-0.317***	0.099
About half co-workers have the same ethnic ancestry	-0.123	0.130	-0.070	0.129	-0.088	0.129
Ethnic ancestry not important	-0.035	0.072	0.067	0.078	0.050	0.078
South Asians						
Most co-workers have the same ethnic ancestry	-0.141	0.122	0.028	0.122	0.063	0.122
About half co-workers have the same ethnic ancestry	-0.106	0.128	0.083	0.124	0.142	0.124
Ethnic ancestry not important	0.150	0.078	0.123	0.081	0.092	0.080
Blacks						
Most co-workers have the same ethnic ancestry	0.024	0.187	0.138	0.202	0.081	0.201
About half co-workers have the same ethnic ancestry	0.051	0.162	0.053	0.160	-0.046	0.153
Ethnic ancestry not important	0.109	0.103	0.139	0.112	0.097	0.113
Filipinos and other visible minorities						
Most co-workers have the same ethnic ancestry	-0.168	0.104	-0.063	0.107	0.025	0.108
About half co-workers have the same ethnic ancestry	-0.396**	0.140	-0.325*	0.140	-0.230	0.135
Ethnic ancestry not important	-0.026	0.070	-0.062	0.076	-0.014	0.074
Italians						
Most co-workers have the same ethnic ancestry	-0.307**	0.118	-0.307**	0.116	-0.324**	0.118
About half co-workers have the same ethnic ancestry	0.114	0.104	0.140	0.103	0.117	0.104
Ethnic ancestry not important	-0.079	0.089	-0.158	0.094	-0.171	0.094
German, Portuguese and other European minority groups						
Most co-workers have the same ethnic ancestry	-0.023	0.086	0.062	0.083	0.101	0.081
About half co-workers have the same ethnic ancestry	-0.011	0.095	0.100	0.092	0.049	0.091
Ethnic ancestry not important	0.103**	0.037	0.063	0.039	0.063	0.038

* significant at $p<0.05$
** significant at $p<0.01$
*** significant at $p<0.001$
Note: See Table A.2 for model specifications.
Source: Statistics Canada, Ethnic Diversity Survey.

4.4 Co-ethnic workplace concentration and life satisfaction

Immigrants working in ethnically homogeneous settings are less likely to report low levels of life satisfaction than workers with few or no co-ethnic co-workers (Table 7, which is based on logistic regression models in Table A.3). This holds true for both men and women. For instance, when the difference in observed individual characteristics and job attributes are controlled for, the odds ratio of reporting low levels of life satisfaction is 0.60 for male immigrant workers in ethnically homogeneous work settings relative to workers with few or no co-ethnic co-workers. This odds ratio is equivalent to an estimated 7-percentage-point difference on an average of 17% reporting low levels of life satisfaction. Further controlling for annual earnings, the odds ratio of reporting low levels of life satisfaction for workers in ethnically homogeneous settings reduces slightly for immigrant men, but it remains the same for immigrant women.

Table 7
Estimated odds ratio of reporting low level of life satisfaction, relative to workers with few or no ethnic co-workers, by ethnic group, sex, and immigrant status

	Men		Women	
	Model 1[1] Earnings not included	Model 2 Model 1+ log annual earnings	Model 1 Earnings not included	Model 2 Model 1+ log annual earnings
Immigrants				
Most co-workers have the same ethnic ancestry	0.60***	0.58***	0.56***	0.56***
About half co-workers have the same ethnic ancestry	1.39*	1.42*	1.22	1.22
Ethnic ancestry not important	1.30**	1.31**	1.16	1.16
Canadian born of immigrant parents				
Most co-workers have the same ethnic ancestry	1.19	1.19	1.05	1.05
About half co-workers have the same ethnic ancestry	2.34**	2.31**	2.22*	2.22*
Ethnic ancestry not important	1.99***	1.99***	1.13	1.13

* significant at p<0.05
** significant at p<0.01
*** significant at p<0.001
1. See Table A.3 for full model specification.
Note: The reference group is few or no co-workers have the same ethnic ancestry.
Source: Statistics Canada, Ethnic Diversity Survey.

Immigrant men who share the same ethnicity with about half of their co-workers and whose ethnicity is unimportant to them are more likely to report low levels of life satisfaction than workers with few or no ethnic co-workers. This suggests that the degree of co-ethnic concentration at the workplace and self-reported life satisfaction are not linearly associated or that some complicated selection patterns are at play.

Among the Canadian born, workers in ethnically homogeneous settings are not significantly different in reporting low levels of life satisfaction from those with few or no co-ethnic co-workers. Similar to the pattern observed among immigrant men, Canadian-born men who share the same ethnicity with about half of their co-workers and those whose ethnicity is not important to them are more likely to report low levels of life satisfaction than those Canadian-born men with few or no ethnic co-workers. Canadian-born women who share the same ethnicity with about half of their co-workers are also more likely to report low levels of life satisfaction than do women with few or no ethnic co-workers.

For large visible minority/ethnic groups, workers in ethnically homogeneous settings are generally less likely to report low levels of life satisfaction than those workers with few or no co-ethnic co-workers, although the difference is not statistically significant among South Asians, Blacks and Italians. This result is shown in Table 8, where immigrants and the Canadian-born men and women are combined in the models.

Table 8
Estimated odds ratio of reporting low levels of life satisfaction, relative to workers with few or no ethnic co-workers, by ethnic group, combining immigrants and Canadian born of immigrant parents

	Model 1[1] Earnings not included	Model 2 Model 1+ log annual earnings
Chinese		
Most co-workers have the same ethnic ancestry	0.73	0.68 *
About half co-workers have the same ethnic ancestry	2.10 ***	2.06 **
Ethnic ancestry not important	2.02 ***	2.05 ***
South Asians		
Most co-workers have the same ethnic ancestry	0.89	0.89
About half co-workers have the same ethnic ancestry	0.12 ***	0.12 ***
Ethnic ancestry not important	0.77	0.77
Blacks		
Most co-workers have the same ethnic ancestry	0.57	0.57
About half co-workers have the same ethnic ancestry	2.03 *	2.06 *
Ethnic ancestry not important	1.13	1.14
Filipinos and other visible minorities		
Most co-workers have the same ethnic ancestry	0.51 **	0.51 **
About half co-workers have the same ethnic ancestry	2.78 ***	2.75 ***
Ethnic ancestry not important	1.77 ***	1.77 ***
Italians		
Most co-workers have the same ethnic ancestry	0.62	0.62
About half co-workers have the same ethnic ancestry	1.60	1.60
Ethnic ancestry not important	0.92	0.92
German, Portuguese and other European minority groups		
Most co-workers have the same ethnic ancestry	0.46 **	0.47 **
About half co-workers have the same ethnic ancestry	1.70 **	1.71 **
Ethnic ancestry not important	1.23 *	1.23 *

* significant at $p<0.05$
** significant at $p<0.01$
*** significant at $p<0.001$
1. Model 1 includes sex, potential year of work experience, education, language proficiency, immigrant status, ethnic belonging and friends, occupation, industry, self employment status and weeks worked.
Source: Statistics Canada, Ethnic Diversity Survey.

5 Discussion and conclusion

This study shows that the majority of immigrants and the Canadian born of immigrant parents do not work in ethnically homogeneous settings. In Canada's eight largest metropolitan areas, about 10% of immigrants with non-British or non-French origins work in ethnically homogeneous settings. The level is much higher among Chinese (20%) and Portuguese (18%), and very low among most European immigrant groups. About 5% of Canadian-born minority-group members work in ethnically homogeneous settings. Only Canadian-born Italians and Portuguese have a substantially higher level than the overall average.

The Canadian-born Chinese, South Asians and Filipinos have a very low level of co-ethnic concentration relative to their immigrant counterparts. For these groups, working in an ethnically homogenous environment is likely a transitional stage for the new arrivals that are not well

educated and are not proficient in the host-country's language(s). While new immigration continues to replenish their populations, the Canadian born and probably the well-educated, long-term immigrants move into the mainstream labour market. By comparison, immigrant and Canadian-born Italians have similar levels of co-ethnic concentration at the workplace. It seems that for this group the tendency of co-ethnic concentration has been passed on from the immigrants to the second generation.

While the level of ethnic concentration at the workplace narrows substantially from immigrants to the Canadian born among the Chinese, Filipinos and South Asians, there is little difference in the level of residential concentration between immigrants and the Canadian born in these groups. Previous studies have suggested that group differences in residential concentration in Canada mostly reflect variations in the degree of preference to live in proximity to own-group members and the capacity to build ethnic communities (Hou 2006, Myles and Hou 2004). It is possible that the Canadian born and the immigrants have similar preferences to live in ethnically concentrated neighbourhoods because living in such neighbourhoods has little consequence on labour market outcomes (Hou and Picot 2003). However, since ethnically homogeneous work settings are often located in low-paying occupations and industries, constraints in human capital probably play a major role for the higher representation of immigrants in such settings that the Canadian born tend to avoid.

Immigrant workers in ethnically homogeneous settings have a much lower proficiency in English/French than other immigrants who do not work or work with fewer or no co-ethnics. Immigrant workers in such settings also have much lower levels of educational attainment than other immigrant workers. These results suggest that ethnic economies provide an accommodation for immigrants who may otherwise not be able to find work at all, because of their lack of human-capital skills. In ethnically homogeneous settings, these immigrants may also face fewer difficulties with communication and job functions than they would in other settings. These findings are consistent with previous observations about the positive role that ethnic economies can play for new immigrants who encounter difficulties of finding employment in the mainstream labour market (Logan, Alba and Stults 2003; Zhou 2004b). An alternative interpretation, however, is that working in an ethnically homogenous environment could reduce immigrants' incentives to learn the host-country language and to invest in those skills required in the mainstream labour market.

Immigrant men working in ethnically homogeneous settings earn, on average, substantially less (33%) than immigrant workers with few or no co-ethnic co-workers. This earnings gap is primarily attributable to differences in human capital factors and to the fact that ethnically homogeneous settings are over-represented in low-paying occupations and industries. Among immigrant women and the Canadian born, working in ethnically homogeneous settings is not associated with a significant earnings gap.

Immigrant workers in ethnically homogenous settings are less likely to report low levels of life satisfaction than are other immigrant workers. It is possible that interaction with other immigrants who share the same language, cultural and ethnic origins is beneficial to individuals' psychological well-being, although alternative explanations of unobserved heterogeneity and firm-size effects cannot be ruled out, due to data limitations (see discussion in the final paragraph

below). Among the Canadian born, there is no consistent association between the level of self-perceived life satisfaction and workplace concentration.

This study highlights the merits of studying co-ethnic concentration at immediate work settings. Most previous studies on ethnic economies have been based on ethnic concentration in large geographic areas or occupational/industrial sectors. However, group over-representation at such aggregate levels may not correspond to ethnic concentration at the workplace. Jewish and Chinese men in Canada, for instance, are often over-represented in high-status occupations—such as health, financial services and information technology—in which the majority of their colleagues are not co-ethnics. Italians, on the other hand, are more concentrated at the firm level than in occupations (Reitz, Calzavara and Dasko 1981). Focusing on co-ethnic concentration at immediate work settings provides a better understanding of the causes and consequences of participation in ethnic economies for individual workers.

Some data limitations of this study have to be noted. The Ethnic Diversity Survey (EDS) has no information on the ethnicity of the business owner or supervisor, which can be useful for gaining insight on how ethnic concentration at the workplace is established. Furthermore, the small sample size does not allow a detailed analysis for each identified minority group by immigrant status and sex. The observed sociodemographic variables in the earnings model may not fully capture the possibility that those who are highly motivated and with higher unobserved abilities are also the ones who have a lower propensity to work in an ethnically homogeneous environment. If such unobserved selectivity could be accounted for, the estimated earnings gap would be even smaller, given that it is likely that immigrants with high unobserved abilities may locate out of ethnic enclaves to a greater extent (Edin, Fredriksson and Åslund 2003). This potential bias, therefore, will not affect the study's conclusion about the insignificant association between earnings and co-ethnic concentration. On the other hand, the possible self-selection of generally satisfied individuals into ethnically homogeneous settings lends the possibility of an overstatement of psychological benefits associated with co-ethnic concentration at the workplace. Furthermore, the EDS did not collect data on firm size. Since ethnic businesses are often small in scale (Nee, Sanders and Sernau 1994; Reitz 1990) and small firms tend to offer lower wages than large firms, if firm size could be controlled for then the remaining earnings gap associated with working in ethnically homogeneous settings would be even smaller.

Appendix

Table A.1
Job characteristics, by the level of co-ethnic concentration at the work place among workers aged 25 to 64 and immigration status

	Most co-workers have the same ethnic ancestry	About half co-workers have the same ethnic ancestry	Few or no co-workers have the same ethnic ancestry	Ethnic ancestry not important
Immigrants		percent		
Occupation	100.0	100.0	100.0	100.0
Management	16.8	7.6	9.8	13.1
Natural and applied sciences	6.9	16.5	21.7	15.7
Other professionals	11.4	17.4	27.5	25.3
Sales and service	32.8	19.3	19.6	19.7
Trades and transportation	11.6	18.2	10.4	14.8
Others[1]	20.5	21.1	11.1	11.4
Industry	100.0	100.0	100.0	100.0
Goods-producing industries	30.6	38.2	24.9	26.0
Trade and transportation	16.5	20.3	18.2	20.2
Business services	15.3	15.6	25.6	23.8
Public services	8.5	15.8	21.3	18.0
Personal services	29.1	10.1	10.0	12.0
Self-employed	27.1	19.9	11.4	19.4
Weeks worked in the previous year	47.9	47.9	49.4	49.6
Hours worked in a week	43.5	44.1	41.3	42.1
Canadian born of immigrant parents				
Occupation	100.0	100.0	100.0	100.0
Management	7.9	17.2	12.6	13.1
Natural and applied sciences	12.9	21.3	26.8	19.6
Other professionals	32.6	18.4	30.4	29.0
Sales and service	21.7	19.2	18.6	19.4
Trades and transportation	13.1	17.9	7.5	14.9
Others	11.9	6.0	4.2	4.0
Industry	100.0	100.0	100.0	100.0
Goods-producing industries	23.7	37.6	17.4	19.1
Trade and transportation	16.0	12.9	19.0	20.5
Business services	15.0	24.8	30.5	31.0
Public services	26.3	18.5	27.7	23.4
Personal services	19.0	6.3	5.5	6.0
Self-employed	25.5	25.6	15.4	18.9
Weeks worked in the previous year	48.9	50.2	49.6	50.0
Hours worked in a week	42.7	44.8	42.7	42.6

1. Occupations in this group are mostly unique to primary industry, processing, manufacturing and utilities.
Note: Figures may not add to 100% due to rounding.
Source: Statistics Canada, Ethnic Diversity Survey.

Table A.2
Regression estimates of log annual earnings, by sex and immigrant status

	Immigrants					
	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Intercept	10.80***	10.73***	9.73***	10.55***	10.50***	9.19***
Most co-workers have the same ethnic ancestry	-0.33***	-0.18**	-0.11	-0.07	0.05	0.04
About half co-workers have the same ethnic ancestry	-0.05	0.05	0.08	-0.12	-0.10	-0.12
Ethnic ancestry not important	-0.03	0.00	0.00	0.06	0.03	0.02
Chinese	-0.13*	-0.09	-0.08	0.11	0.21*	0.11
South Asian	-0.19**	-0.18**	-0.13*	0.02	0.04	0.02
Black	-0.29***	-0.29***	-0.22**	-0.08	-0.12	-0.10
Filipino	-0.30**	-0.19*	-0.15	-0.34**	-0.32**	-0.37***
Other visible minorities	-0.27***	-0.26***	-0.19**	-0.11	-0.08	-0.08
German	0.17	0.11	0.11	-0.08	-0.15	-0.17
Italian	0.08	0.06	0.09	0.08	0.12	0.10
Portuguese	0.01	0.05	0.05	-0.22	-0.12	-0.14
Potential years of experience	0.01	0.00	0.00	-0.02	-0.01	-0.01
Squared years of experience	0.00	0.00	0.00	0.00*	0.00*	0.00*
Married	0.18***	0.24***	0.20***	0.06	0.07	0.08
Number of young children	-0.04*	-0.03	-0.02	-0.04*	-0.01	-0.01
In Canada <=5 years	...	-0.55***	-0.48***	...	-0.22*	-0.12
In Canada 6 to 10 years	...	-0.21***	-0.16**	...	-0.12	-0.08
High school graduation	...	0.08	0.10	...	-0.02	-0.09
Some postsecondary	...	0.11	0.09	...	0.17	0.06
University	...	0.40***	0.31***	...	0.38***	0.21*
Not speaking English/French	...	-0.37**	-0.34**	...	-0.44*	-0.32**
Mother tongue not E/F,[1] can speak E/F but not use E/F with friends	...	-0.14*	-0.11	...	-0.29***	-0.23*
Mother tongue not E/F, use E/F with friends	...	-0.12*	-0.08	...	-0.23**	-0.19*
Mother tongue not E/F, spoke E/F in family by age 15	...	-0.05	-0.04	...	-0.13	-0.09
Strong ethnic belonging	...	0.04	0.06	...	-0.05	-0.07
With ethnic friends	...	0.02	0.00	...	0.02	0.01
Self employment	...	...	0.05	...	...	0.06
Management	...	...	0.24**	...	...	0.16
Natural and applied sciences	...	...	0.18*	...	...	0.19
Other professionals	...	...	0.31***	...	...	0.30*
Sales and service	...	...	0.03	...	...	-0.13
Occupations in trades and transportation	...	...	0.20**	...	...	-0.11
Goods-producing industries	...	...	0.20**	...	...	0.05
Trade and transportation industries	...	...	0.11	...	...	-0.01
Business services industries	...	...	0.25***	...	...	-0.06
Public services industries	...	...	0.12	...	...	-0.08
Weeks worked in a year	...	...	0.01***	...	...	0.02***
Hours worked in a week	...	...	0.00*	...	...	0.01***
Sample size		1,818			1,491	
R-squared	0.058	0.150	0.189	0.039	0.080	0.146

Table A.2
Regression estimates of log annual earnings, by sex and immigrant status (concluded)

	Canadian born of immigrant parents					
	Men			Women		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Intercept	10.72***	10.30***	9.15***	10.49***	9.67***	7.81***
Most co-workers have the same ethnic ancestry	-0.08	-0.10	-0.11	-0.17	-0.16	-0.11
About half co-workers have the same ethnic ancestry	0.01	0.11	0.07	0.07	0.09	0.02
Ethnic ancestry not important	0.01	-0.01	0.00	0.13*	0.18**	0.17**
Chinese	0.06	0.04	0.09	0.25*	0.17	0.21*
South Asian	-0.10	-0.20	-0.13	0.09	0.11	0.22
Black	-0.48***	-0.36***	-0.32**	-0.29*	-0.23	-0.20
Filipino	-0.43*	-0.28	-0.25	-0.15	-0.24	-0.21
Other visible minorities	-0.19	-0.18	-0.13	0.13	0.22	0.22
German	-0.07	-0.09	-0.07	0.00	0.04	0.03
Italian	0.01	0.07	0.09	0.00	0.05	0.02
Portuguese	-0.17	-0.09	-0.04	0.00	0.06	0.05
Potential years of experience	0.01	0.02*	0.01	-0.01	0.00	0.00
Squared years of experience	0.00	0.00	0.00	0.00**	0.00*	0.00**
Married	0.35***	0.32***	0.27***	0.04	0.05	0.08
Number of young children	0.06*	0.05*	0.06	0.08*	0.07*	0.09**
High school graduation	...	0.15	0.14	...	0.29	0.32*
Some postsecondary	...	0.19	0.15	...	0.48**	0.43**
University	...	0.63***	0.55***	...	0.79***	0.70***
Mother tongue not E/F, can speak E/F but not use E/F with friends	...	-0.03	-0.06	...	0.34*	0.35*
Mother tongue not E/F, use E/F with friends	...	-0.14	-0.17	...	-0.02	0.05
Mother tongue not E/F, spoke E/F in family by age 15	...	0.03*	0.01	...	0.09	0.11*
Strong ethnic belonging	...	-0.06	-0.05	...	0.08	0.11*
With ethnic friends	...	-0.03	-0.02	...	0.02	0.03
Self employment	...	...	0.11*	...	...	0.05
Management	...	...	0.14	...	...	0.37*
Natural and applied sciences	...	...	0.10	...	...	0.23
Other professionals,	...	...	0.13	...	...	0.34*
Sales and service	...	...	0.02	...	...	0.23
Occupations in trades and transportation	...	...	0.10	...	....	0.85**
Goods-producing industries	...	...	0.10	...	...	0.02
Trade and transportation industries	...	...	0.08	...	...	-0.23*
Business services industries	...	...	0.09	...	...	-0.03
Public services industries	...	...	0.01	...	...	-0.16
Weeks worked in a year	...	...	0.02***	...	...	0.02***
Hours worked in a week	...	...	0.01**	...	...	0.02***
Sample size		1,195			1,103	
R-squared	0.178	0.254	0.289	0.086	0.150	0.253

... not applicable
* significant at $p<0.05$
** significant at $p<0.01$
*** significant at $p<0.001$
1. English/French.
Note: All models include metropolitan area dummy variables.
Source: Statistics Canada, Ethnic Diversity Survey.

Table A.3
Odds ratio estimates from ordered logit models showing the association between co-ethnic concentration and self-reported life satisfaction, by sex and immigrant status

	Immigrants			
	Men		Women	
	Model 1[1] Earnings not included	Model 2 Model 1+ log annual earnings	Model 1 Earnings not included	Model 2 Model 1+ log annual earnings
Most co-workers have the same ethnic ancestry	0.60***	0.58***	0.56***	0.56***
About half co-workers have the same ethnic ancestry	1.39*	1.42*	1.22	1.22
Ethnic ancestry not important	1.30**	1.31**	1.16	1.16
Chinese	1.78***	1.76***	1.25	1.26
South Asian	0.95	0.92	0.98	0.98
Black	1.39*	1.33	1.73***	1.72***
Filipino	0.70	0.69*	0.98	0.97
Other visible minorities	0.99	0.96	1.24	1.23
German	1.36	1.38	0.53	0.53
Italian	0.92	0.93	0.92	0.93
Portuguese	0.51**	0.51**	0.90	0.89
Potential years of experience	1.01	1.01	1.04**	1.04**
Squared years of experience	1.00	1.00	1.00**	1.00**
Married	0.57***	0.59***	0.58***	0.58***
Number of young children	1.02	1.01	0.93	0.93
In Canada <=5 years	1.23	1.11	1.03	1.03
In Canada 6 to 10 years	1.16	1.13	1.68***	1.68***
High school graduation	0.90	0.92	1.18	1.18
Some postsecondary	1.03	1.06	1.25	1.25
University	0.94	1.00	0.97	0.98
Not speaking English/French	2.82***	2.69***	4.79***	4.74***
Mother tongue not E/F,[2] can speak E/F but not use E/F with friends	2.20***	2.15***	1.62***	1.61***
Mother tongue not E/F, use E/F with friends	1.32*	1.30*	1.59***	1.58***
Mother tongue not E/F, spoke E/F in family by age 15	1.58**	1.56**	1.50**	1.49**
Strong ethnic belonging	0.76***	0.77***	0.99	0.99
With ethnic friends	0.85	0.85	0.93	0.92
Sample size	1,818		1,491	
R-squared	0.043	0.072	0.061	0.061

Table A.3
Odds ratio estimates from ordered logit models showing the association between co-ethnic concentration and self-reported life satisfaction, by sex and immigrant status (concluded)

	Canadian born of immigrant parents			
	Men		Women	
	Model 1[1] Earnings not included	Model 2 Model 1+ log annual earnings	Model 1 Earnings not included	Model 2 Model 1+ log annual earnings
Most co-workers have the same ethnic ancestry	1.19	1.19	1.05	1.05
About half co-workers have the same ethnic ancestry	2.34 **	2.31 **	2.22 *	2.22 *
Ethnic ancestry not important	1.99 ***	1.99 ***	1.13	1.13
Chinese	0.99	0.98	1.62	1.62
South Asian	1.24	1.24	1.37	1.37
Black	1.75 *	1.79 *	1.77 *	1.77 *
Filipino	2.24	2.28	0.34	0.34
Other visible minorities	1.59	1.61	1.71	1.71
German	2.08 ***	2.10 ***	0.49 **	0.49 **
Italian	0.71	0.70	1.22	1.22
Portuguese	0.44 *	0.44 *	0.00	0.00
Potential years of experience	1.13 ***	1.13 ***	1.04	1.04
Squared years of experience	1.00 ***	1.00 ***	1.00	1.00
Married	0.33 ***	0.33 ***	0.35 ***	0.35 ***
Number of young children	0.81 *	0.80 *	1.27 *	1.27 *
High school graduation	1.51	1.48	0.75	0.75
Some postsecondary	1.06	1.04	1.13	1.14
University	1.14	1.09	1.31	1.32
Mother tongue not E/F, can speak E/F but not use E/F with friends	1.29	1.30	4.09 ***	4.10 ***
Mother tongue not E/F, use E/F with friends	2.44 **	2.47 **	1.80 *	1.80 *
Mother tongue not E/F, spoke E/F in family by age 15	0.98	0.98	0.68 *	0.68 *
Strong ethnic belonging	0.68 **	0.69 **	0.70 *	0.70 *
With ethnic friends	0.88	0.88	0.42 ***	0.42 ***
Sample size	1,195		1,103	
Pseudo R-squared	0.146	0.146	0.139	0.140

* significant at p<0.05
** significant at p<0.01
*** significant at p<0.001
1. Model 1 also includes occupation, industry, self employment status, weeks worked, hours worked, metropolitan area dummy variables.
2. English/French.
Source: Statistics Canada, Ethnic Diversity Survey.

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